

CMW® ELKONIUM 22 silver, copper alloy

Category : Metal , Nonferrous Metal , Precious Metal , Silver Alloy

Material Notes:

Alloying copper into silver increases the hardness of the material, and its resistance to mechanical wear and deformation. The electrical and thermal conductivity remain relatively high, thus, the alloys retain good current switching characteristics. Corrosion resistance decreases as the copper content increases. Copper oxides and other films will increase the surface resistance of these materials. This will require higher closing forces, usually 2 ounces or more, and some wiping action to break through the films and establish good contact. Because of the oxidation tendency, the silver-copper alloys should be avoided in high temperature applications. The silver-copper alloy materials are ductile and can be made in almost all the same shape and size contacts as fine silver. Usually, they will show an economical advantage over fine silver. ELKONIUM 22, the eutectic alloy, contains the highest amount of copper, which will give acceptable contact performance. It has higher contact resistance and greater sticking tendencies than CMW's ELKONIUM 1 alloy. Information provided by CMW Inc.

Order this product through the following link:

http://www.lookpolymers.com/polymer_CMW-ELKONIUM-22-silver-copper-alloy.php

Physical Properties	Metric	English	Comments
Density	10.1 g/cc	0.365 lb/in ³	

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell 15T	81	81	annealed
	87	87	cold worked
Tensile Strength, Ultimate	365 MPa	53000 psi	annealed
	552 MPa	80000 psi	cold worked
Elongation at Break	5.0 %	5.0 %	cold worked
	20 %	20 %	annealed

Component Elements Properties	Metric	English	Comments
Copper, Cu	28 %	28 %	
Silver, Ag	72 %	72 %	

Electrical Properties	Metric	English	Comments
Electrical Resistivity	0.00000200 ohm-cm	0.00000200 ohm-cm	84 % IACS

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